SHCHUKAREV, S.A.; BALICHEVA, T.G.; BORCHA, K.Ya.; KUKHAREVA, M.A.

Infrared absorption spectra of anhydrous sulfuric and orthophosphoric acids. Vest. LGU 19 no.4:147-151 '64.

(MIRA 17:3)

SHCHUKAREV, S.A.; LOBANEVA, O.A.; KONONOVA, M.A.

Formation constants of complex palladium (II) iodides. Vest.
LGU 20 no.4:149-150 '65.   (MIRA 18:4)

DANILOV, S.N., glav. red.: ZAKHAROVA, A.I., red.; ARBUZOV, A.Ye.,
     red.; VVEDENSKY, A.A., red.; VENUS-DANILOVA, E.D., red.;
     IOFFE, I.S., red.; KAVERZNEVA, Ye.D., red.; LUTSENKO,
     I.F., red.; MISHCHENKO, K.F., red.; NEMTSEV, M.S., red.;
     PETROV, A.A., red.; FREYDLINA, R.Kh., red.; SHEMYAKIN,
     M.M., red.; SHCHUKAREV, S.A., red.; YUR'YEV, Yu.K., red.

     [Problems of organic synthesis] Problemy organicheskogo
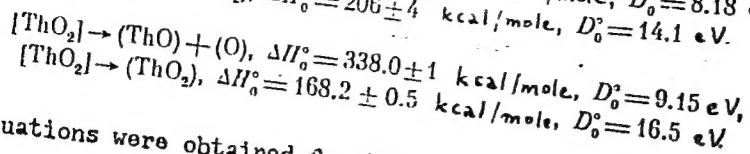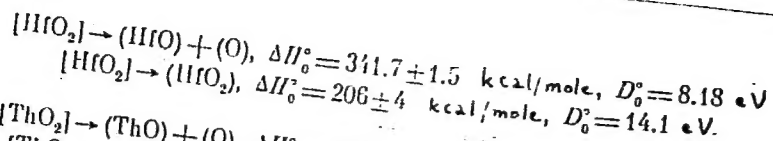   sinteza. Moskva, Nauka, 1965. 323 p.   (MIRA 18:8)

KON BAKEN, ... , VAK ... ...

Heats of formation of solid thermir oxalates of manganese, iron, cobalt, copper, and zinc. Herm. khi 38 no.16:845-147 '65.

(MIRA 18:9)

SHIGORIN, D.N., GAIDANKA, T.G.; POMERANTS, Yu.M.; FIALKOV, Yu.Ya.

Infrared spectra of binary systems formed by sulfuric acid
with acetic and chloroacetic acids. Zhur.neorg.khim. 10
no.12:2723-2727 D '65. (MIRA 19:1)

1. Leningradskiy gosudarstvennyy universitet i Kiyevskiy
politekhnicheskiy institut.

ACC NR: AT6027148

$$[HfO_2] \rightarrow (HfO) + (O), \quad \Delta H_0^\circ = 341.7 \pm 1.5 \ kcal/mole, \ D_0^\circ = 8.18 \ eV$$
$$[HfO_2] \rightarrow (HfO_2), \quad \Delta H_0^\circ = 206 \pm 4 \ kcal/mole, \ D_0^\circ = 14.1 \ eV.$$

$$[ThO_2] \rightarrow (ThO) + (O), \quad \Delta H_0^\circ = 338.0 \pm 1 \ kcal/mole, \ D_0^2 = 9.15 \ eV,$$
$$[ThO_2] \rightarrow (ThO_2), \quad \Delta H_0^\circ = 168.2 \pm 0.5 \ kcal/mole, \ D_0^\circ = 16.5 \ eV$$

The following equations were obtained for the vapor pressures:

for ZrO, $\log p = -35100/T + 10.73$ mm Hg,
for ZrO$_2$, $\log p = -37100/T + 11.04$ mm Hg;
for HfO, $\log p = -37150/T + 11.27$ mm Hg,
for HfO$_2$, $\log p = -42700/T + 10.76$ mm Hg;
for ThO, $\log p = -33300/T + 9.98$ mm Hg,
for ThO$_2$, $\log p = -35180/T + 10.75$ mm Hg.

Orig. art. has: 6 figures, 3 tables and 7 formulas.

SUB CODE: 07/ SUBM DATE: 25Nov64/ ORIG REF: 005/ OTH REF: 013

Card 2/2

ACC NR: AT0017043   (A)   SOURCE CODE: UR/0078/66/011/002/0233/0236

AUTHOR: Shchukarev, S. A.; Semenov, G. A.; Frantseva, K. Ye.

ORG: Leningrad State Order of Lenin University im. A. A. Zhdanov (Leningradskiy gosudarstvennyy ordena Lenina universitet)

TITLE: Thermodynamic study of evaporation of the lower oxides of niobium

SOURCE: Zhurnal neorganicheskoy khimii, v. 11, no. 2, 1966, 233-236

TOPIC TAGS: niobium compound, thermodynamic analysis, mass spectrometry, x ray analysis, heat of dissociation , EVAPORATION

ABSTRACT: This is a continuation of the previous works of the authors on the evaporation of Nb oxides (Zh. neorg. khimii, 4, 2638, 1959; Izv. vyssh. uchebn. zaved. Khim. i khim. tekhnologiya, 5, 691, 1962; and Dokl. AN SSSR, 145, 119, 1962) attempting to evaluate quantitatively the parameters of the processes accompanying the evaporation of NbO and NbO$_2$ and consisting of measuring the vapor pressure by the effusion method with simultaneous mass-spectrometric analysis of the products of evaporation. The study of the evaporation of NbO at 1600-2200C under equilibrium conditions substantiated the conclusions of the previous works regarding the presence of NbO and NbO$_2$ molecules in the gas phase. At temperatures of >2300C Nb$^+$ ions were observed in the effusion chamber after complete disappearance of the ion currents of NbO$_2^+$ and NbO$^+$. The heat of sublima-

Card 1/3   UDC: 546.882.2/.5-31 : 536.7

ACC NR: AP6019043

tion of Nb ($\Delta H_{298.0}$ = 173 kcal/g-at), which agreed well with the literature data (171.8 kcal/g-at), was determined from the angular coefficient of the curve $\log(I^+ \cdot T)$ = f(1/T) plotted after measuring the dependence of the intesity of Nb^+ on temperature. X-ray phase analysis of the residue left after evaporation detected the presence of NbO and Nb and no NbO_2 in the solid phase. Therefore, the evaporation of NbO consisted of the following reactions: $NbO_{solid,liquid} \longrightarrow (NbO)$ and $2NbO_{solid,liquid} \longrightarrow (NbO_2) + [Nb]$. The part of each reaction in the evaporation of NbO was determined as $\delta\gamma_{NbO} : \delta\gamma_{NbO_2}$ = 2 : 1. During evaporation of NbO_2 at 1500 – 2100C, the mass spectrum indicated the presence of predominant NbO_2 and subordinate NbO in amounts varying from fractions of 1% at 1500C to 7–8% at 2200C. The x-ray phase analysis detected only NbO_2 in the solid phase. It was thus concluded that two reactions were present during the evaporation of NbO: NbO_2 solid,liquid $\longrightarrow (NbO_2)$ and NbO_2 solid,liquid $\longrightarrow (NbO) + (O)$. The vapor pressures of the gas components of these two reactions were measured. The results agreed (with 5% accuracy) with data from previous investigations. The heat of sublimation of the NbO and NbO_2 molecules and the energies of their dissociation were calculated for NbO_2 as ΔH_0^0 = 59.5±1 kcal/mole and D_0^0 = 14.8±0.1 ev and for NbO as ΔH_0^0 = 49.5±1 kcal/mole and D_0^0 = 7.8±0.1 ev. The melting heats of NbO_2 and NbO were determined to be 18 and 22 kcal/mole, respectively. The equation of free energy of the gaseous NbO_2 and NbO from the elements can be written as

$$\Delta F^0_{(NbO_2)} = -54300 - 4.5T; \quad \Delta F^0_{(NbO)} = 49500 - 23.4T$$

ALEKSEEV

The authors thank L. V. Gurovich and G. A. Khachkuruzova for the calculation of the thermodynamic potentials of condensed and gaseous MoO_2 and MoO_3. Orig. art. has: 3 fig., 6 formulas, and 1 table.

SUB CODE: 07/ SUBM DATE: 30Jun64/ ORIG REF: 011/ OTH REF: 006

Card 3/3

GOLOSHNIKOV, B.I.; BERUN', ...; MIKHLIN, G.V.; PANCHENKO, Ye.Ya.;
SKVIAROVSKAYA, L.A.; SPINTER, A.I.; SHCHURKININA, L.A.;
YURK, Yu.'u., **doktor geol.-miner.** nauk, prof.; YU 'IEV,
L.D.; SERDYUK, O.F., red.

[Granitoid rocks in the Azov Sea region and prospects for
using them in the ceramic and glass industries] Granitoid-
nye porody Priazov'ia i perspektivy ikh ispol'zovaniia v
keramichesko i stekol'nom proizvodstvakh. Pod red. Iu.Iu.
Iurka. Kiev, Naukova dumka, 1964. 142 p. (MIRA 17:9)

1. Akademiya nauk URSR. Kiev. Instytut mineral'nykh resur-
siv.

SHCHUKAREVA, L A

Heat standards. A N Shchukarev and L A Shchukareva. *J Phys. Chem.* (U S S R) 3, 180 74(1932) Values of Q were obtained as follows, salicylic acid (Merck) 5208, same after standing 1 month 5352, salicylosalicylic acid 5455, anthracene 9444, same after 1 year 9360, phenanthrene 9480, the same after 3 months 9457, camphor 9243, benzoic acid 6327 — P H RAHMANN

45° SLA METALLURGICAL LITERATURE CLASSIFICATION

SHCHUKAREVA, L. A.

3

Improving the properties of sanitary-ware slips by means of a combination peptizer. G. V. Kukolev and L. A. Shchukareva. *Steklo i Keram.*, 10 [7] 15–18 (1953).—The combination peptizer consisted of a water-glass extract of humic acids from peat or brown coal, in which the ratio of humic acids to Na_2O was 1:4. In comparison with a mixture of water glass and soda, it reduces the moisture of sanitary-ware slips by 2 to 3%, decreases the amount of alkali in the mix, reduces consumption of water glass, increases the life of gypsum molds, and accelerates considerably (50%) the formation of the shape in the molds. B.Z.K.

Long-lasting patterns containing caustic magnesite for gypsum molds. M. A. Matveev. *Steklo i Keram.*, 10 [11] 16–18 (1953).—The mix should contain caustic magnesite 60, finely ground sand (marshallite) 30 to 34, and powdered asbestos 6 to 10%. Residues of magnesite, sand, and asbestos should not exceed 10, 5, and 3% on sieves having 4900, 6400, and 900 openings per cm.³. Reduction of the specific gravity of magnesite from 1.3 to 1.2 decreases the setting time from 6 to 3 hr. but lowers the strength almost half. Optimum drying time is 3 hr. at 100°. Strength increases during storage. B.Z.K.

KUKOLEV, G. V.; SHCHUKAREVA, L. A.

Studying properties of hydrated kaoline films in relation to pressure. Trudy KhPI 31 no.1:5-9 '59.   (MIRA 13:10)
(Kaolin--Testing)

SHCHUKIN, Mikhail Mikhaylovich; ZAKIN, Ya.Kh., kand.tekhn.nauk, retsenzent;
IVANOV, O.A., kand.tekhn.nauk, red.; SIMONOVSKIY, N.Z., red.;
SPERANSKAYA, O.V., tekhn.red.

[Coupling systems for automobiles and tractors; design, theory,
and calculation] Stsepnye ustroistva avtomobilei i tiagachei;
konstruktsiia, teoriia i raschet. Moskva, Gos.nauchno-tekhn.
izd-vo mashinostroit.lit-ry, 1961. 206 p.

(MIRA 14:4)

(Couplings)   (Automobile trains)

SHCHUKAREVA, N. K.

"Diagnosis of Stomach Cancer by Flushing With Water (Histological Section Method)." Cand Med Sci, Joint Council of a Group of Leningrad Institues, Acad Med Sci USSR, Leningrad, 1953. (RZhBiol, No 2, Sep 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (10)

SO: Sum. No. 481, 5 May 55

SHCHUKAREVA, N.K., kandidat meditsinskikh nauk (Leningrad, ul. Krasnogo
Tekstil'shchika, d. 3/10 kv.5)

Evaluation of clinical groups of patients with cancer. Vop.onk. 1
no.3:56-59 '55.   (MIRA 10:1)

1. Iz otdela nauchnogo ucheta Instituta onkologii AMN SSSR (direktor
chlen-korrespondent AMN SSSR prof. A.I.Serebrov, zaveduyushchiy
otdelom - starshiy nauchnyy sotrudnik A.V.Chaklin)
       (NEOPLASMS,
             grouping of patients with various forms of cancer)

SHCHUKAREVA, N.K. (Leningrad, ul, Krasnykh tekstil'shchikov, d.3/10 kv.5)

Soft tissue fibrosarcoma of the leg stump with regional metastasis
[with summary in English] Vop.onk. 2 no.3:361-363 '56.   (MLRA 9:10)

1. Iz 2-go khirurgicheskogo otdeleniya (zav. - prof. A.I.Rakov)
Instituta onkologii AMN SSSR (dir. - prof. A.I.Serebrov)
        (AMPUTATION STUMPS, neoplasms
            leg., fibrosarcoma of soft tissue with regional
            metastasis, surg.)
        (FIBROSARCOMA
            soft tissue of amputation stump of leg with regional
            metastases, surg.)
        (LEG, neoplasms
            soft tissue fibrosarcoma of amputation stimp, with regional
            metastases, surg.)

RAKOV, A.I.; SHEMYAKINA, T.V. SHCHUKAREVA,N.K.; IVANOV, G.G.

Gastric function in precancerous stages and cancer of the
stomach [with summary in English] Vop. onk. 3 no.1:42-49 '57 (MIRA 10:4)

1. Iz I khirurgicheskoy kliniki (zav.-prof. S.A. Kholdin), iz II
khirurgicheskoy kliniki (zav.-prof. A.I. Rakov) i kinicheskoy
laboratorii Instituta onkologii AMN SSSR (dir.-chl.-korr. AMN SSSR
prof. A.I. Serebrov) Adres avtorov: Leningrad, 129,2-ya Berezovaya
alleya, d. 3, Institut onkologii AMN SSSR.
        (STOMACH NEOPLASMS, physiol.
            gastric secretion during cancer & in precancerous stages)
        (GASTRIC JUICE, physiol in various dis.
            secretion during cancer & in precancerous stages)

SHCHUKAREVA, N.K. (Leningrad, 124, ul. Krasnogo Tekstil'shchika, d.3/10, kv.5)

Intrapulmonary hamartoma. Vop.onk. 5 no.11:609-613 '59.
(MIRA 14:7)

1. Iz II khirurgicheskogo otdeleniya (zav. - prof. A.I.Rakov) Instituta onkologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.I.Serebrov).
(LUNGS—TUMORS)

SHCHUKAREVA, N.K.

Case of surgical treatment of solitary metastasis of cancer of
the rectum into the lung. Vop. onk. 6 no. 10:86-90 0 '60.

(MIRA 14:1)

(RECTUM—CANCER)   (LUNGS—CANCER)

SHCHUKAREVA, N.K. (Leningrad,ul.Krasnykh tekstil'shchikov,3/10.kv.5)

Pulmonary plasmocytoma. Grud. khir. 1 no.4:91-94 Jl-Ag '59.
                                                (MIRA 15:3)
1. Iz II khirurgicheskogo otdeleniya (zav. - prof. A.I.
Rakov) Instituta onkologii AMN SSSR (dir. - deystvitel'nyy
chlen AMN SSSR prof. A.I. Serebrov).
                        (LUNGS--TUMORS)

SHCHUKAREVA, N. K. (Leningrad, C-124, ul. Krasnykh Tekstil'shchikov, d. 3/10, kv. 5); VAGNER, R. I.

Prescalene biopsy in cancer of the lung. Grud. khir. 4 no.3: 22-26 My-Je '62. (MIRA 15:7)

1. Iz 2-go khirurgicheskogo otdeleniya (zav. - chlen-korrespondent AMN SSSR prof. A. I. Rakov) Instituta onkologii (dir. - deystvitel'nyy chlen AMN SSSR prof. A. I. Serebrov) AMN SSSR.

(LUNGS—CANCER)   (CHEST—BIOPSY)

SHCHUKAREVA, N. K.

Clinical anatomical characteristics of bronchial cancer with a
branching form of growth. Vop. onk. 8 no.5:61-72 '62.
                                                (MIRA 15:7)

1. Iz 2-go khirurgicheskogo otdeleniya (zav. - chl. korr. AMN
SSSR, prof. A. I. Rakov) Instituta onkologii AMN SSSR (dir. -
deystv. chl. AMN SSSR, prof. A. I. Serebrov)

        (BRONCHI--CANCER)

SOKOLOVA, N.M.; KASATKINA, N.M.; SHCHUKAREVA, N.K.; LEVKOVICH, Yu.I.

1. Iz kliniki-diagnosticheskoy laboratorii (zav. - dotsent
I.F. Grekh) Instituta onkologii AMN SSSR (direktor- deystvitel'-
nyy chlen AMN SSSR prof. A.I. Serebrov. Adres avtorov: Leningrad,
P-129, 2-ya Berezovaya alleya, 3, Institut onkologii AMN SSSR.

SHCHUKAREVA, N.K. (Leningrad, S-124, ul. Krasnykh tekstil'shchikov, d.3/10, kv.5)

Nature of the growth and metastatic spreading of pulmonary cancer to regional lymph nodes. Vop. onk. 10 no.9:8-16 '64.

(MIRA 18:4)

1. Iz II khirurgicheskogo otdeleniya (zav. - chlen-korrespondent AMN SSSR prof. A.I.Rakov) Instituta onkologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.I.Serebrov).

SHCHUKAREVA, N.K. (Leningrad, S-124, ul. Krasnogo Tekstil'schika, d.3/10, kv.5)

Polypoid cancer of the lung. Vop. onk. 10 no.5:24-31 '64.
(MIRA 18:8)

1. Iz II khirurgicheskogo otdeleniya (zav. - chlen-korrespondent AMN SSSR prof. A.I.Rakov) Instituta onkologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.I.Serebrov).

Lastline range of the genus *anguis* in patients with malignant tumors. Vop. Onk. 11 no.1975-25 1-5.
(KLPA 18:2)

1. Iz kliniko-diagnosticheskoy laboratorii (zav. - dotsent I.P.
C) nauchnom-institute onkologii AMN SSSR (direktor - deystvit. chl.-
korr. AMN SSSR prof. A.I. Serebrov).

CHITAKHYAN, A.K.

Electrolysis of the sera, Probl. gemat. i perel. krovi 9
no.12:60-61 '64.   (MIRA 18:2)

1. Iz khirurgicheskoye otdeleniye (zav.- chlen-korrespondent
AMN SSSR prof. A.I. Rakov, Institute onkologii (dir.-deystvitel'nyy
chlen AMN SSSR prof. A.I. Serebrov, AMN SSSR, Leningrad.

SOKOLOVA, N.M.; SHCHUKAREVA, N.K.; LEVITSKAIA, N.A.; KARASIK, B.N.

Serological diagnosis of candidiasis in patients with malignant
neoplasms. Vop. onk. 8 no.8 52-56 '62.

(MIRA 18:11)

1. Iz kliniko-diagnosticheskoy laboratorii (zav. - dotsent
I.F.Grekh) Instituta onkologii AMN SSSR (direktor - deystvitel'-
nyy chlen AMN SSSR prof. A.I.Serebrov).

clinical and morphological characteristics of cancer of the
peripheral (small) bronchi. Vop.onk., 'l.no.11-7 is '65.

(MIRA 19:1)

1. ... kafedry onkologii (zav. - chlen-korrespondent AMN SSSR
prof. ..I.Savuy) Gosudarstvennogo instituta dlya usovershenstvovaniya
vrachey im. S.M.Kirova i Instituta onkologii AMN SSSR (direktor -
deystvitel'nyy chlen AMN SSSR zasluzhennyy deyatel' nauki RSFSR
... ... I. Serebrov).

SHCHUKAREVA, N.K., kand.med.nauk (Leningrad, ul. Krasnykh tekstil'shchikov, d.3/10 kv.5)

Coelomic cyst of the mediastinum. Vest.khir. 83 no.9:113-116 S '59.   (MIRA 13:2)

1. Iz 2-go khirurgicheskogo otdeleniya (zaveduyushchiy - prof. A.I. Rakov) Instituta onkologii AMN SSSR.
         (MEDIASTINUM, neoplasms)
         (MESOTHELIOMA, case reports)

SHCHUKIN, A.A.; SHCHUKIN, A.A., mladshiy.

Comparison of gas and electric heating systems in industrial
furnaces. Gaz.prom. 5 no.6:20-28 Je '60.
                                                    (MIRA 13:6)

(Furances) (Gas as fuel) (Heating)

SHCHUKIN, A. A.

USSR/Engineering   Jul 48
      Furnaces, Gas
      Furnaces, Oil

"Conversion of Heating Forge Furnaces From Fuel
Oil to Low Calorie Producer Gas," A. A.
Shchukin, Cand Tech Sci, 4 pp

"Za Ekonomiyu Topliva" No 7

Explains advantages of scheme, and describes how
it is carried out. Gives trial figures for in-
stallation.

                                        16/49T59

SHCHUKIN, A. A.

FA 43/49745

USSR/Engineering   Oct 48
    Furnaces
    Heating

"Operation of Gas Jets for Heating Gas and Air,"
A. A. Shchukin, Cand Tech Sci, 4 pp

"Za Ekonomiyu Topliva" Vol V, No 10

Discusses efficiency of using high-pressure jets in
furnaces, with preheating of generating gas and
air.

43/49745

SHCHUKIN, A.A.

ANDREYEV,S.Yo.; BOKIY,B.V.; GORODETSKIY,P.I.; GREYVER,N.S.; SHCHUKIN,A.A.
GERONT'YEV,V.I.; SKOCHINSKIY,A.A.; TERPIGOREV,A.M.; SHEVYAKOV,L.D.;
SPIVAKOVSKIY,A.A.; VERKHOVSKIY,I.M.; VORONKOV,I.M.; YELANCHIK,G,M.;
KASHIN,N.V.; SLOBODKIN,M.I.; GUZENKOV,P.G.; ZEMSKOV,V.D.; NOVIKOV,F.S.
OSETSKIY,V.M.; SOSUNOV,G.I.; YASYUKEVICH,S.M.; KHAN,G.A.; POPOV,V.M.

In memory of Professor Levenson.   Gor.zhur. no.9:60   S '55.
                                                      (MIRA 8:8)

        (Levenson, Lev Borisovich, 1878-1955)

LEBEDEV, Panteleymon Dmitriyevich; SHCHUKIN, Aleksey Aleksandrovich;
    MURZAKOV, V.V., redaktor; FRIDKIN, A.M., tekhnicheskiy redaktor

[Industrial heat engineering] Promyshlennaia teplotekhnika. Izd.
2-oe, perer. Moskva, Gos. energ. izd-vo, 1956. 384 p.   (MLRA 9:9)
        (Heat engineering)

SHCHUKIN, A., dots., kand.tekhn.nauk (Moskva)

"Use of gas in industrial furnaces and boiler units in
Moscow and Moscow Province (materials of the scientific and
technological conference in Moscow)." Reviewed by
A.Shchukin. NTO no.11:63 N '59.   (MIRA 13:4)
                (Gas, Natural)

SHCHUKIN, A.A.; SHCHUKIN, A.A., mladshiy.

Comparison of gas and electric heating systems in industrial
furnaces. Gaz.prom. 5 no.6:20-28 Je '60.
(MIRA 13:6)

(Furances) (Gas as fuel) (Heating)

BAKHMACHEVSKIY, Boris Ivanovich; Arm. Aleksandrovich Gustavovich; LYZO,
    Georgiy Pavlovich; ZHUKOV, Igor' Nikolayevich; SHCHUKIN,
    Aleksey Aleksandrovich; LISINA, T.V., red.izd-va;
    DOBUZHINSKAYA, L.V., tekhn. red.

[Heat engineering; course in general heat engineering]
Teplotekhnika; kurs obshchei teplotekhniki. [By] B.I.Bakh-
machevskii i dr. Moskva, Metallurgizdat, 1963. 605 p.
                                        (MIRA 17:2)

BAKHMACHEVSKII, b.I.; ZAKH, N.G.; SHCHUKIN, A.A.

[General heat engineering; instructions on methods and
test assignments for students of other than heat
engineering professions of technical correspondence
schools of higher learning] Obshchaia teplotekhnika; me-
todicheskie ukazaniia i kontrol'nye zadaniia dlia studen-
tov neteplotekhnicheskikh spetsial'nostei zaochnykh vys-
shikh tekhnicheskikh uchebnykh zavedenii. Izd.5. Mo-
skva, Vysshaia shkola, 1961. 117 p.   (MIRA 17:9)

BOLGOVSKIKH, Afanasiy Andreyevich; SHCHUKIN, Aleksandr Grigor'yevich;
    VSHIVKOV, F.P., inzh., retsenzent; SHELEKHOV, V.A., inzh.,
    red.; DUGINA, N.A., tekhn. red.

    [Operator of a hydraulic press]Mashinist gidravlicheskogo pres-
    sa. Moskva, Mashgiz, 1962. 111 p.   (MIRA 15:10)
                        (Hydraulic presses)

SHCHUKIN, Aleksey Grigor'yevich; SHKOL'NIKOV, Boris Yakovlevich;
ZAV'YALOVA, A.N., red.; MOZGALEVSKAYA, S.A., mlad. red.;
PONOMAREVA, A.A., tekhn. red ; GERASIMOVA, Ie.S., tekhn.
red.

[Technical, industrial and financial plan of enterprises
of local importance] Tekhpromfinplan predpriiatii mestnogo
znacheniia. Moskva, Ekonomizdat, 1963. 295 p.
                                          (MIRA 16:11)

(Industrial management)

SHCHUKIN, Aleksey Grigor'yevich; SHKOL'NIKOV, Boris Yakovlevich;
   ZAV'YALOVA, A.N., red.; MOZGALEVSKAYA, S.A., mlad. red.;
   PONOMAREVA, A.A., tekhn. red.; GERASIMOVA, Ye.S., tekhn.
   red.

[The technical, industrial and financial plan of the enter-
prises of local significance] Tekhpromfinplan predpriiatii
mestnogo znacheniia. Moskva, Ekonomizdat, 1963. 295 p.
                                          (MIRA 17:4)

automatic control of electric drives, Gosenergoizdat
upravlenie elektroprivodami. Moskva, Gos.   1941, 332 s.
(MIRA 10:1)

SHCHUKIN, A.I., kandidat tekhnicheskikh nauk; FEL'DBAUM, A.A., kandidat tekhni-cheskikh nauk.

Apparatus for precision control of dimensions by the induction method.
Vest.elektroprom. 18 no.5:22-24 '47.   (MLRA 6:12)
                                        (Electric controllers)

1. Vsesoyuznyy elektrotekhnicheskiy institut.

124-1957-2-1515

Translation from   Referativnyy zhurnal, Mekhanika, 1957, Nr 2, p 12 (USSR)

AUTHOR   Shchukin, A. I.

TITLE   The Generalized Formulas of the Transfer Functions and the
Structural Arrangement of Multi-Contoured Servo and Regulating
Systems (Obobshchennyye formuly peredatochnykh funktsiy i
strukturnyye skhemy mnogokonturnykh sledyashchikh i reguliruye-
mykh sistem)

PERIODICAL   Tr Vses zaoch energ. in-ta, 1955, Nr 6, pp 27-35

ABSTRACT   Bibliographic entry

1. Servomechanisms   2. Mathematics   3. Control systems

Card 1/1

KONEV, Yuriy Ivanovich; SHCHUKIN, A.I., redaktor; KUCHUMOVA, K.I., redaktor; KORUZEV, N.N., tekhnicheskiy redaktor

[Crystal triodes in automatic control apparatus] Kristallicheskie triody v ustroistvakh avtomaticheskogo upravleniia. Moskva, Izd-vo "Sovetskoe radio," 1957. 159 p.   (MLRA 10:8)
        (Transistors)   (Automatic cont: l)

KARPOV, Aleksey Vladimirovich; RULEV, V.V., inzh., retsenzent; SHCHUKIN,
A.I., kand.tekhn.nauk, retsenzent; MASLOVA, Ye.F., red.; KISE-
LEVA, A.A., tekhn.red.

[Electric equipment for refrigerators; large-current electric
units] Elektrooborudovanie kholodil'nikov; elektroustanovki
sil'nogo toka. Moskva, Gos.izd-vo torg.lit-ry, 1960. 207 p.
                                                   (MIRA 13:7)
        (Refrigeration and refrigerating machinery)

KONEV, Yu.I.; SOTSKIY, B.S., prof., doktor tekhn.nauk, retsenzent;
KUCHUMOVA, K.I., red.; SHCHUKIN, A.I., red.; SMUROV, B.V.,
tekhn.red.

[Application of transistors in automatic control] Polupro-
vodnikovye triody v avtomatike. Moskva, Izd-vo "Sovetskoe
radio," 1960. 446 p.   (MIRA 13:11)
      (Transistors)   (Automatic control)

PETROV, I.I., doktor tekhn.nauk, prof.; SHCHUKIN, A.I., kand.tekhn.nauk,
dots.; ZUSMAN, V.G., kand.tekhn.nauk, dots., ARZAMASTSEV, P.S.,
kand.tekhn.nauk, dots.; PANTYUSHEV, G.S., kand.tekhn.nauk;
NEVRAYEV, V.Yu., kand.tekhn.nauk; POPOV, G.A., dots.

"Principles of electric driving" by A.T. Golovan. Reviewed by
I.I. Petrov and others. Elektrichestvo no.8:93-95 Ag '60.
(MIRA 13:8)

(Electric driving)
(Golovan, A.T.)

PETROV, I.K.; SHCHUKIN, A.I.

Instruments for measuring the moisture content of various products
and materials. Priborostroenie no.9:13-16 S '60.

(MIRA 13:9)

(Moisture--Measurement)

SHCHUKIN, A.I.; YAKOBISHVILI, A.Z.

Electronic apparatus for determining the moisture content of stiff leather. Kozh.-obuv.prom. 2 no.6:33-35 Je '60.

(MIRA 13:9)

(Moisture--Measurement)   (Leather)

BANDZELADZE, A.Ye.; SHCHUKIN, A.I.

PVUK-1 electronic moisture gauge for coal. Ugol' 36 no.9:34-35
S '61. (MIRA 14:9)
(Coal--Testing) (Gauges moisture--Measurement)

ACCESSION NR: AT4013980   S/3070/63/000/000/0098/0100

AUTHOR: Fedorov, Yu. N.; Serebryakov, A. G.; Kostry*gina, N. A.; Tsy*ro, O. L.; Shchukin, A. I.

TITLE: The semi-automatic ultrasonic apparatus UKL-2 for inspecting sheet metal for internal defects

SOURCE: Novy*ye mashiny* i pribory* dlya ispy*taniya metallov. Sbornik statey. Moscow, Metallurgizdat, 1963, 98-100

TOPIC TAGS: sheet metal inspection, ultrasonic inspection, piezoelectric transducer, metal defect, metal sheet

ABSTRACT: For detection of internal defects (laminations, non-metallic inclusions) in sheet metal, a semi-automatic immersed ultrasonic inspection device has been developed, in which several pairs of transmitting and receiving piezoelectric transducers are used. The transmitter 4 and receiver 3 are placed symmetrically on opposite sides of the test sheet 1. (See Fig. 1 of the Enclosure.) Water is used as the immersion liquid in the test tank 1. With the aid of power-driven threaded spindles, the transmitter and receiver can be moved horizontally back and forth along the inspected sheet with a speed of 6.8 m per minute. During this movement, the sheet is stationary. At the end of each passage, the transducers

Card 1/4

ACCESSION NR: AT4013980

are arrested, and the sheet is raised by the width covered by inspection during one passage. At the detection of a defect, a sonic signal 6, a light signal 7, and an automatic stopping device are triggered simultaneously. The approximate coordinates of the defect can be determined by taking readings on scales. For more accurate locating of the defect, a manual drive and an electron beam indicator 9 can be used. The drive mechanisms for the sheet and the transducers are mounted on the test tank structure. Adjustment is provided for different sizes of sheets to be inspected. All automation and electronic elements are unified in one cabinet, in the upper panel of which the controls are installed. The electric scheme of the installation is described, with some simplifications but in considerable detail. The receiver and transmitter each contain ten piezoelectric transducers, 10 mm in diameter and 1 mm thick. The frequency of ultrasonic vibrations is 2.8 megacycles/sec. The circular quartz plates are arranged in two vertical rows, overlapping 40%, permitting the inspection of a 50 mm wide strip during each horizontal path. The resolving capacity of the installation was determined by examining sheet specimens with artificial defects, represented by flat bottom drillings, not fully penetrating the sheet and closed by plugs of the same material. As a result of these tests, it has been established that the minimum size of a defect detectable by the apparatus is 2.5-3 mm^2. However, this size depends on
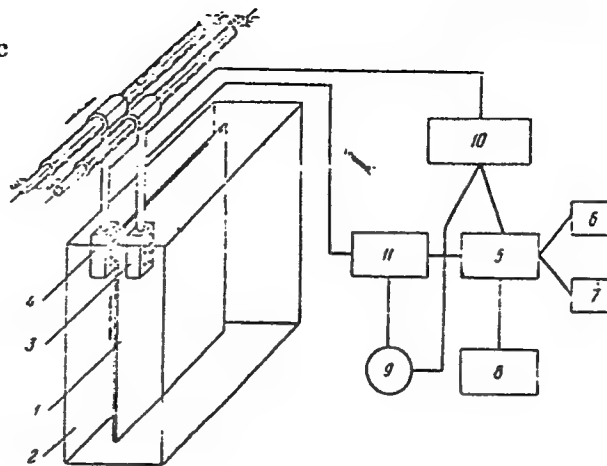
Card 2/4

Fig. 1. Schematic illustration of ultrasonic
inspection equipment.

1 — metal sheet under inspection
2 — test tank with water
3 — receiver
4 — transmitter (sound generator)
5 — defect recorder
6 — sonic signal
7 — light signal
8 — stopping device
9 — electron beam indicator for accurate
      locating of defect
10 — electric vibration generators
11 — amplifier

Card 4/4

SHCHUKIN, A.I., inzh.

Using the capacitance method for measuring the moisture content
of peat. Torf.prom. 40 no.1:20-22 '63.   (MIRA 16:5)

1. Smolenskiy filial Nauchno-issledovatel'skogo instituta
teploenergeticheskogo priborostroyeniya.
                (Peat) (Moisture--Measurement)

KUREV, Petr Ivanovich; SHCHUKIN, A.I., red.

[Transistorized pulse devices for controlling electric
motors and electromagnetic mechanisms] Tranzistornye
impul'nye ustroistva upravleniia elektrodvigateliami i
elektromagnitnymi mekhanizmami. Moskva, Energiia, 1967.
31 p. (Biblioteka po avtomatike, no.283)
                                                    (MIRA 20:1)

KHAIM, Arkadiy Ivanovich [deceased]; POTALIN, N.N., red.

[Automatic control of electric drives] Avtomaticheskoe
upravlenie elektroprivodami. Moskva, Energiia, 1964. 281 p.
(MIRA 17,9)

...chromium plating with a formation of the sample.
...egorovanie no.3(: :-1. (1/:,   (3J:A 1731

... for prot. izmil.tekn.ekon.
informatsii tsentr.izd. inst. nauch. tekh.inform, 17 no. 5
(MIRA 17.5)

VALAROVICH, M.P. (Moskva); SHCHUKIN, A.I. (Moskva)

Use of nuclear magnetic resonance in determining the moisture
content of disperse systems and the properties of bound water.
Koll. zhur. 26 no.3:386-390 My-Je '64.

(MIRA 17:9)

VOLAROVICH, M.P.; SHCHUKIN, A.I.

Use of the nuclear magnetic resonance method for determining
the moisture of peat. Koll.zhur. 27 no.3:474-475 My-Je '65.
                                            (MIRA 18:12)

1. Smolenskiy filial Nauchno-Issledovatel'skogo instituta
teploenergeticheskogo priborostroyeniya. Submitted Nov. 12,
1964.

Name: SHCHUKIN, A. N.

Author of book, "Propagation Ultra-short Waves " This book
contains the following: physical phenomena of ultra-short
wave propagation, direct communication, ground wave, short
skip, etc. This book is specifically designed for students
at technical institutes.

REF: Radio Front #19, p. 63, 1938

SHCHUKIN, H-H.

Non-Stationary Processes in Tuned and Band-Pass Amplifiers. N. S. Shchukin (Bull. Acad. Sci. URSS, ser. phys., 1946, Vol. 10, No. 1, pp. 47-48. In Russian.) A mathematical investigation of the processes taking place in amplifiers when a constant or an alternating e.m.f. is suddenly applied.

CHCHJ TIII, H-N.

3648
A Method for preventing Impulse Interference
with Radio Reception. V. N. Shchukin

The receiver is a
of a wide band unit, followed
The operation of the

SHCHUKIN, A. N.

"A. S. Popov and Contemporary Radio Engineering."

Radio, No 5, 1949. Corr. Memb. Acad. Sci. USSR, -1949-.

AID P - 4397

Subject   : USSR/Radio

Card 1/1   Pub. 89 - 6/11

Author   : Shchukin, A.

Title   : Pocket-size radio with triode transistor

Periodical   : Radio, 3, 40-42, Mr 1956

Abstract   : The design of a pocket size superheterodyne receiver set
                mounted on triodes transistor and operating on a 20 v
                battery with a built-in magnetic antenna is discussed
                in great detail. Data on coils are given in a table.
                Seven diagrams.

Institution : None

Submitted   : No date

PHASE I BOOK EXPLOITATION

SOV/4080

Shchukin, A.N.

Teoriya veroyatnostey i eksperimental'noye opredeleniye kharakteristik slozhnykh
ob"yektov (Theory of Probability and Experimental Determination of the Charac-
teristics of Complex Objects) Moscow, Gosenergoizdat, 1959. 111 p. Errata
slip inserted. 8,000 copies printed.

Ed.: V.I. Shamshur; Tech. Ed.: N.I. Borunov.

PURPOSE: This book is intended for students taking advanced courses in schools
of higher technical education, and for engineers and scientific workers.

COVERAGE: The book gives a brief account of the theory of probability, and
studies problems pertaining to quality control, reliability, and efficiency
of various instruments and devices. The approach to a solution of these
problems is illustrated by a number of examples. The author thanks
F.V. Lukin, G.S. Narimanov, G.A. Tyulin and V.P. Shishov. There are 22 ref-
erences: 21 Soviet and 1 English.

Card 1/3

Theory of Probability (Cont.)   SOV/4080

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Theory of Probability (Cont.)   SOV/4080

V.   Fundamental laws of the distribution of probabilities. Poisson's law.
      Integral convolution
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VI.   Characteristic functions. Normal law of the distribution of probabili-
      ties
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VII. Substitution of variables in distribution functions. Rayleigh's
      distribution. Distribution functions of several variables. Elliptic
      distribution. Spherical and ellipsoidal distribution
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VIII. Selection of distribution functions on the basis of experimental data.
      Confidence limits and confidence probabilities
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Appendix: Tables of some functions
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AVAILABLE: Library of Congress

Card 3/3
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                                                              8-17-60

S/194/62/000/004/096/105
D201/D303

6.9400

AUTHOR: Shchukin, A. N.

TITLE: The effect of fluctuation noise on the accuracy of
            determining the coordinates by radio engineering
            methods

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika,
            no. 4, 1962, abstract 4-7-14n (V sb. 100 let so dnya
            rozhd. A. S. Popova, M., AN SSSR, 1960, 5-28)

TEXT: A simplified and physically clear analysis of the effect of
interference and of useful signal fluctuations on the accuracy of
determining angular coordinates and distance by radio engineering
methods is given. Mathematically simple approximations, relating
the accuracy of coordinate determination to the energy of S, ener-
gy of fluctuations and to the parameters of the radio engineering
system, are also derived. It is assumed that the strength S is
substantially greater than the average level of fluctuating noise.
The well-known relationships are given for the signal and fluctua-

Card 1/2

The effect of fluctuation ...

S/194/62/000/004/095/106
D201/D308

tion noise passing through a typical receiving installation with
an amplitude detector and the so-called homodyne detector. It is
assumed that such a receiver is used in all coordinate measuring
arrangements. General formulas for the m.s. error in a given di-
rection (of angular coordinates) are obtained, and are subsequent-
ly applied to two particular cases, when direction is determined
by the equisignal zone and phase methods. Mean square errors in
distance evaluation are determined for continuous and pulse signal
methods. The results obtained are applied to the determination of
probability that the object is situated in a given volume of
space; this is achieved utilizing the fact that errors in the mea-
surements of direction and of distance obey the normal law of dis-
tributions. Errors in determining the displacement velocity of the
object are found, the errors being due to the presence of fluctu-
ation noise. The effect of fluctuation of S on the accuracy of
coordinate determination is estimated. /Abstracter's note: Com-
plete translation./

Card 2/2

PHASE I BOOK EXPLOITATION   SOV/5838

Shchukin, A.N.

Dinamicheskiye i flyuktuatsionnyye oshibki upravlyayemykh ob"yektov (Dynamic and Fluctuation Errors of Controlled Objects) Moscow, Izd-vo "Sovetskoye radio," 1961. 213 p. 7000 copies printed.

Ed.: N.G. Zabolotskiy; Tech. Ed.: B.V. Smurov.

PURPOSE: This book is intended for engineers interested in guiding systems and for students.

COVERAGE: The book determines the physical nature, character, and values of the deviation of guided objects from their predetermined ideal trajectory. Guided objects together with the complexity of the guiding media are considered as single systems possessing a limited number of parameters and characterizing the number of errors at various conditions of motion. The book also presents a qualitative evaluation of basic factors influencing the precision of guided objects. Physical processes occurring in systems containing guided objects are explained No personalities are mentioned. There are 13 references, all Soviet.

Card

ALTSHULER, L.A., akademik; KELDYSH, M.V., akademik; KAPITSA, P.L., akademik;
VUL, B.M.; VERESHCHAGIN, L.F.; PISTOL'KORS, A.A.; SHCHUKIN, A.N.,
akademik; SKOBEL'TSYN, D.V., akademik; ALEKSANDROV, A.P., akademik;
AMBARTSUMYAN, V.A., akademik; ZEL'DOVICH, Ya.B.; SEMENOV, N.N.,
akademik; KOTEL'NIKOV, V.A., akademik; LIFSHITS, I.M.; VEKSLER, V.I.,
akademik; GINZBURG, V.L.; MILLIONSHCHIKOV, M.D., akademik

Some problems in the development of modern physics; discussion of
the work of the Department of General and Applied Physics. Vest.
AN SSSR 35 no.2:3-46 F '65. (MIRA 18:3)

1. Chleny-korrespondenty AN SSSR (for Vul, Vereshchagin, Pistol'kors,
Lifshits, Ginzburg).

SHCHUKIN, A.M., dotsent.

Complete mechanization of haulage in the alkali shop of a leather factory. Leg.prom. 14 no.10:5-10 O '54.   (MLRA 7:11)
(Leather industry)

ANDREYEV, Yevgeniy Timofeyevich; SHCHUKIN, Aleksandr Semenovich; SAUKHAT, I.G., redaktor; KEL'NIK,V.P. redaktor; KOVALENKO,N.I., tekhnicheskiy redaktor;

[The miner] Prokhodchik gornykh vyrabotok; uchebnoe posobie dlia shkol i kursov masterov gornorudnykh predpriiatii. Sverdlovsk, Gos. nzuhcno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, Sverdlovskoe otd-nie, 1955. 320 p.   (MIRA 9:4)
                    (Mining engineering)

SHCHKI., A. S.

SHCHKI., A. S. -- "The Selection and Investigation of national Types of Supports for Basic Horizontal Mine Work under the Conditions of 'Puchashchiye' Rock in the Chelyabinsk Brown-Coal Basin." Min High-er Education USSR, Sverdlovsk Mining Inst imeni V. V. Vakhrushev. Sverdlovsk, 1956.
(Dissertation for the Degree of Candidate in Technical Sciences).

SO: Knizhnaya Letopis', No 9, 1956

SHCHUKIN, A.S., kand. tekhn.nauk.

Determining rock pressure in adit-type excavations in bound soft and hard monolithic formations. Izv. vys. ucheb. zav.; gor. zhur. no.2:28-36 '58. (MIRA 11:5)

1. Sverdlovskiy gornyy institut.
(Earth movements)

SHCHUKIN, A.S., kand.tekhn.nauk

Comparative technical efficiency of various types of drift
lining. Izv.vys.ucheb.zav.; gor.zhur. no.9:28-37 '58.
(MIRA 12:6)

1. Sverdlovskiy gornyy institut.
(Mine timbering)

SHCHUKIN, A.S., kand.tekhn.nauk

Modeling rock freezing processes. Izv.vys.ucheb.zav.; gor.
zhur. no.10:32-37 '58.   (MIRA 12:8)

1. Sverdlovskiy gornyy institut.
          (Geological modeling) (Frozen ground)

FEDOROV, S..., prof., doktor tekhn.nauk; SHCHUKIN, A.S., kand.tekhn.nauk; ..., Ye... kand tekhn.nauk; GORBUNOV, B.F., starshiy prepodavatel'; SENAKOV, V G., assistent; RYCHKOV, A.I., assistent; GALAY, B..., assistent

Qualifications of a mine building engineer. Shakht stroi. 5 no.7:6-7 Jl '61. (MIRA 15:6)

1. Sverdlovskiy gornyy institut.
(Mining engineering)

ALEKSEYEV, V.L., inzh.; POLOVOV, B.D., inzh.; SHCHUKIN, A.S., kand. tekhn.
    nauk

    Construction of a watertight barrier in a shaft by the under-
    water concreting method. Shakht. stroi. 8 no.5:25-28 My'64
                                                        (MIRA 17:7)

    1. Trest Boksitstroy (for Alekseyev). 2. Sverdlovskiy gornyy
    institut (for Shchukin).

ALEKSEYEV, V.L., inzh.; POLOVOV, B.D., inzh.; SHCHUKIN, A.S., kand.tekhn.nauk

Ground cementation from the working face during vertical shaft sinking. Shakht.stroi. 8 no.11:25 N '64.

(MIRA 18:1)

1. Trest Boksitstroy (for Alekseyev). 2. Sverdlovskiy gornyy institut (for Shchukin).

SHCHUKIN, Anatoliy Yefimovich; DOBRIN, K.S., red.; SHCHETININ, V.D.,
       red.; ROMANOVA, N.I., tekhn.red.

       [Industry of the German Democratic Republic; its development
       and place in the socialist division of labor] Promyshlennost'
       Germanskoi Demokraticheskoi Respubliki; ee razvitie i mesto v
       sotsialisticheskom razdelenii truda. Moskva, Izd-vo IMO, 1959.
       118 p.   (MIRA 13:1)
          (Germany, East--Industries)
       (Germany, East--Foreign economic relations)

KHCKHLOV, I., instruktor; SHCHUKIN, B., starshiy inzh.

High-schcol education for every miner. Sov. shakht. 11 no.3:
36-37 Mr '62.   (MIRA 15:5)

1. Otdel shkol Donetskogo oblastnogo komiteta Kommunisticheskoy
partii Ukrainy (for Khokhlov). 2. Otdel kadrov i uchebnykh
zavedeniy Donetskogo sovnarkhoza (for Shchukin).
       (Donetsk Province--Coal miners--Education and training)

SHCHUKIN, B. M

95

8/089/62/013/006/019/027
B102/B186

AUTHORS: G. T. and M. R.

TITLE: Nauchnaya konferentsiya Moskovskogo inzhenerno-fizicheskogo
instituta (Scientific Conference of the Moscow Engineering
Physics Institute) 1962

PERIODICAL: Atomnaya energiya, v. 13, no. 6, 1962, 603 - 606

TEXT: The annual conference took place in May 1962 with more than 400
delegates participating. A review is given of these lectures that are
assumed to be of interest for the readers of Atomnaya energiya. They are
following: A. I. Leypunskiy, future of fast reactors; A. A. Vasil'yev,
design of accelerators for superhigh energies; I. Ya. Pomeranchuk,
analyticity, unitarity, and asymptotic behavior of strong interactions at
high energies; A. B. Migdal, phenomenological theory for the many-body
problem; Yu. D. Fiveyskiy, deceleration of medium-energy antiprotons in
matter; Yu. M. Kogan, Ya. A. Iosilevskiy, theory of the Mössbauer effect;
M. I. Ryazanov, theory of ionization losses in nonhomogeneous medium;
Yu. B. Ivanov, A. A. Rukhadze, h-f conductivity of subcritical plasma;

Card 1/4

18

Nauchnaya konferentsiya...

S/089/62/013/006/019/027
B102/B186

B. V. Pletnev, F. M. Spevakov, A. M. Stolov, supply of synchrotron electro-
magnets; G. L. Saksaganskiy, V. Ya. Moiseyev, flanged separable heat-re-
sistant junctions of great diameter; B. G. Klimov, A. S. Vayradyan,
V. P. Yevseyev, I. B. Mikhaylov, I. N. Afonskiy, B. N. Belov, Ye. I. Mamo-
nov, B. I. Strelkov, Ye. V. Sedykh, B. A. Shchukin, optical principles in
computer engineering technique; R. S. Nakhmanson, M. M. Roysin,
M. S. Mostovlyanskiy, Yu. A. Volkov, electronics; Ye. L. Sulim, transmitter
for electromagnetic flow-meter, V. M. Ovsyankin, V. M. Plushnikov, applica-
tion of varicondes for transforming d.c. into a.c.

Card 4/4

L 63255-65   EWT(d)/EPF(n)-2/EWP(v)/EWP(k)/EWP(h)/EWF(1)   Po-4/Pq-4/Pf-4/Pg-4/Pac-2/
Pu-4/Pk-4/Pl-4   IJP(c)   WW/BC
ACCESSION NR: AP5012882   UR/0280/65/000/002/0123/0128

AUTHOR: Aleksandrov, V. M. (Moscow); Batkov, A. M. (Moscow);
Staroverov, A. N. (Moscow); Shchukin, B. A. (Moscow)

TITLE: Determining the mathematical expectation and dispersion of the response
of a multivariable nonlinear time-dependent system by computers

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 2, 1965, 123-128

TOPIC TAGS: automatic control, automatic control design, automatic control
system, automatic control theory

ABSTRACT: The accuracy is considered of an automatic-control system
describable by these normal differential equations:

$$\frac{dY}{dt} = F(t, Y) + B(t)f, \qquad Y(0) = C, \qquad (1.1)$$

where $Y = (y_i)$ is the column vector (system output); $F(t, Y) = (F_i(t, Y))$ is a
vector nonlinear function; $B(t) = (\beta_{ij})$ is a variable rectangular matrix $(n \times m)$;
$f(t) = (f_j)$ is the column vector representing the disturbance (white noise with
independent components); $Y(0) = C$ is a random vector of initial conditions

Card 1/2

L 63255-65

ACCESSION NR: AP5012882

noncorrelated to the disturbance vector. A method is suggested for setting up nonlinear differential equations (2.17) whose solution gives a vector of mathematical expectation and a dispersion matrix of the output signal in time; the output process is assumed to be close to normal. The method is claimed to be simpler in computations than the methods of statistical linearization with succes- sive approximations or canonical random functions. If the nonlinear system (1.1) contains only single-variable nonlinearities, the expectation-and-dispersion equations (2.17) can be integrated on an analog computer. Generally, the method requires the use of a digital computer. For stationary conditions, the right-hand member of (2.17) is equal to zero, and the problem is reduced to solving a set of nonlinear algebraic equations. Orig. art. has: 1 figure and 42 formulas.

ASSOCIATION: none

SUBMITTED: 13Feb64   ENCL: 00   SUB CODE: DP, IE

NO REF SOV: 003   OTHER: 002

Card 2/2

L 34944-65   EWT(d)/EWP(1)   Po-4/Pq-4/Pg-4/Pk-4/Pl-4   IJP(c)   BC

S/0103/65/026/003/0492/0499

AUTHOR: Aleksandrov, V. M. (Moscow); Batkov, A. M. (Moscow); Staroverov, A. N. (Moscow); Shchukin, B. A. (Moscow)

TITLE: Investigation of the accuracy of nonlinear, nonstationary systems by means of the statistical linearization method

SOURCE: Avtomatika i telemekhanika, v. 26, no. 3, 1965, 492-499

TOPIC TAGS: automatic control, nonlinear, nonstationary control system, statistical linearization method

ABSTRACT: A study is made of a control system whose performance is described by the system of nonlinear differential equations written in normal vector form

$$\frac{dY(t)}{dt} = F(t, Y) + B(t)f(t),$$
$$Y(0) = C \qquad (1)$$

where the components of the vector $Y(t)$ represent processes at the output of the system, components of the vector $f(t)$ represent independent random processes of white noise type at the input of the system, $F(t, Y)$ is an inertia-free, nonlinear

Card 1/2

L 34944-65

ACCESSION NR: AP5008322 O

transformation vector, C is a vector of normally distributed initial conditions, and B(t) is an m + n matrix of variable coefficients. To determine the accuracy of system (1), the variation in time of the mathematical expectation vector $\overline{Y}(t)$ and the variance vector $\theta(t)$ of the vector random process Y(t) are sought. It is indicated that this problem has a simple solution when the transformation F(t, Y) is linear. System (1) is written for this case and a system of differential equations is derived from which $\overline{Y}(t)$ and $\theta(t)$ can be solved. It is shown how, using the method of statistical linearization (approximation of the nonlinear transformation F(t, Y) by a certain form of linear transformation Z(t)), system (1) can be reduced to the form derived for the linear case and how a system of nonlinear differential equations for direct determination of $\overline{Y}(t)$ and $\theta(t)$ can be constructed which is amenable to solution on a digital computer. It is stressed that the method presented is more economical and has other advantages as compared with the methods presented by other authors. Orig. art. has: 29 formulas. [LK]

ASSOCIATION: none

SUBMITTED: 20Mar64   ENCL: 00   SUB CODE: IE, MA

NO REF SOV: 003   OTHER: 001   ATD PRESS: 3211

Card 2/2

SHCHUKIN, B.D., inzhener.

Using storage batteries as starters in temporary substations.
Elek.sta. 25 no.5:47 My '54.   (MLRA 7:6)
     (Storage batteries) (Electric substations)

SHCHUKIN, B. D.

621.316.57.064.25

1924.   UTILIZATION OF PNEUMATIC DRIVES FOR THE
OPERATION OF OIL CIRCUIT-BREAKERS. B.D.Shchukin.
Elekt. Stantsii, 1956, No. 6, 43-4. In Russian.
    These drives do not require large station batteries. When
compressed-air cylinders (120 at) or individual small compressors
are used with each circuit-breaker they would not even require a
distribution system for the compressed air. Introduction of this
method in 110 and 220 kV substations is advocated.   F.Busemann

MUSATOV, T.P. inzh.; SHCHUKIN, B.D.; FIKSMAN, S.I. (Odessa)
GERSHKOVICH, S.F.; SHNELL', R.V.; DODIN, Ya.I.; ZEYLIDSON,
Ye.D.

Problem of automation and remote control in industrial sub-
stations. Prom.energ. 12 no.8:1-7 Ag '57.   (MIRA 10:10)

1.Stalinskiy setevoy rayon Donbassenergo (for Musatov).
2.Gidroproyekt, g. Kuybyshev (for Shchukin). 3.Novo-Kemerovskiy
khimkombinat (for Gershkovich). 4.Novosibirskoye otdeleniye
Gosudarstvennogo proyektnogo instituta Elektroproyekt (for Shnell').
5.Leninogorskiy polimetallicheskiy kombinat (for Dodin).
6.Tekhnicheskoye upravleniye Ministerstva elektrostantsiy (for
Zeylidzon).
        (Electric power) (Automatic control)

YERMILOV, A.A.,inzh; SEULIN, N.A.,inzh; CHIZHISHIN, P.L., inzh.; CHEPELE, Yu.M.;
inzh.; MUSATOV, T.P., inzh.; FEDOROV, A.A., kand.tekhn.nauk;
YAROSHETSKIY, L.M., inzh.; GOL'DENBLAT, B.I.,inzh.; KUDRYASHOV, S.A.,
inzh.; ZAKHAROV, N.N., inzh.; SHCHUKIN, B.D., inzh.

Improving planning of industrial power supply. Prom. energ. 13 no.7:
18-29 Jl '58.   (MIRA 11:10)

1.Tyazhpromelektroproyekt. (for Yermilov). 2.Zhemproyektas, g.Kaunas
(for Chepele).Donbassenergo (for Musatov). 4.Moskovskiy energoticheskiy
institut (for Fedorov). 5.Uzgiprovodkhoz. g. Tashkent (for Yaroshetskiy).
6.Proyektnyy institut Ministerstva stroitel'stva USSR,Odessa (for
Gol'denblat). 7.Elektroproyekt, g.Kuybyshev (for Kudryashov).
8.Gosradioelektronika (for Zakharov). 9. Gidroproyekt,g. Kuybyshev (for
Shchukin).

                    (Electric power)

AUTHOR: Shchukin, B.D. (Engineer)   SOV/94-58-9-6/30

TITLE: 6-10 kV transformers with built in change-over switches
             (Transformatory 6-10 kv so vstroyennymi pereklyuchatelyami)

PERIODICAL: Promyshlennaya Energetika, 1958, No.9. pp. 18-19

ABSTRACT: The power supply system layout used at an oil refinery built in
             1945 is illustrated schematically in Fig.1. This layout is based on
             the use of imported transformers with built-in change-over switches
             connected through trifurcating boxes as shown in Fig.2. The
             transformers are hermetically sealed and filled with pyranol. There is
             a two-position change-over switch on the 6 kV side and an interlocked
             automatic circuit breaker on the 400 V side. When transformers of
             this construction are available dual supply throughout the refinery is
             very easily arranged. Such transformers could also be used in urban
             supply systems and many other cases. If Soviet transformers of this
             kind were made, package sub-stations could be made more cheaply.
             There are 3 figures.

ASSOCIATION: Gidroproyekt, Kuybyshev

             1. Transformers--Design   2. Transformers--Control systems
             3. Transfer switches--Applications

Card 1/1

SHCHUKIN, B.D.

Simplified method for calculating short-circuit currents in 6
to 10 kv. systems. Prom. energ. 15 no.7:39-41 Jl '60. (MIRA 15:1)

1. Vsesoyuznyy proyektno-izyskatel'skiy i nauchno-issledovatel'skiy
institut im. S.Ya. Zhuk Ministerstva stroitel'stva elektrostantsiy
SSSR, Kuybyshev.
                    (Electric power distribution)

ACC NR: AP7006047

single-cycle MA; load resistance; conversion factor of the measuring device.
The amplified DC signal from the measuring device is utilized as a control sig-
nal and conveyed in this capacity to the excitation winding of the generator in
the motor-generator system. Such monovibrator-controlled push-pull MA may serve as
meters of the deviation of motor RPM from the established value in automatic control
systems designed on the frequency principle. Orig. art. has: 5 figures and
17 formulas. [JPRS: 39,568]

SUB CODE: 09

Card 2/2